BUKHIN, B.L.

Design of the equilibrium configuration of pneumatic tires taking the elongation of the cord yarn into account. Kauch. i rez. 22 no.10:35-38 O '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

BUKHIN, B.L., kand.tekhn.nauk

Calculating rubber-cord elastic elements of an air spring suspension of motor vehicles. Avt.prom. 29 no.9:15-17 S '63. (MIRA 16:9)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Motor vehicles--Springs)

BIDERMAN, V.L., doktor tekhn.nauk; BUKHIN, B.L., kand. tekhn. nauk.

Calculating tires with meridional disposition of cord threads in the casing. Rasch. na prochn. no.9:34-47 '63 (MIRA 16:12)

BUKHIN, B.L.

"Automobile tires of the type R and RS" by V.I. Knoroz. Reviewed by B.L. Bukhin. Kauch. i rez. 24 no.6:60 Je '65. (MIRA 18:7)

L 29824-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM

ACC NR: AP6011132 SOURCE CODE: UR/0424/66/000/001/0081/0089

AUTHORS: Biderman, V. L. (Moscow); Bukhin, B. L. (Moscow) 43 B

ORG: none

TITLE: Equilibrium equations of a zero-spin reticular shell

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 1, 1966, 81-89

TOPIC TAGS: shell theory, stress analysis, elastic deformation, deformation rate

ABSTRACT: The deformation mechanism of a reticular shell structure is investigated. The shell base consists of mutually intersecting flexible and elastic filaments with fixed nodes, filled with a material which does not resist deformation. Two types of calculation procedures are used. In the first case, the shell configuration and the filament stresses are determined from the equilibrium equations and the given geometric relationships. In the second case, for a given internal pressure loading, the equilibrium equations for the shell are solved, starting from a given initial state and considering the displacements of various points on the shell. The second method is analyzed in detail, and the resulting equilibrium equations compared with a derivation from energy conservation considerations. Orig. art. has: 36 equations and 2 figures.

SUB CODE: 20/ SUBM DATE: 06May65/ ORIG REF: 009/ OTH REF: 001

Card 1/1 FV

BUKHIN, M.N., inzh. (Kiyev)

Scientific technological conference of young scientists.
Gidr. i mel. 15 no.7:57-58 Jl '63. (MIRA 16:8)

BUKHIN, M.N., inzh.

Republic-wide seminar on the regulation of mountain rivers. Gidr. i mel. 15 no.10:62-63 O '63. (MIRA 17:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii.

BUKHIN, M.N.

Some relations between the morphometric characteristics of piedmont river-beds. Dop. AN URSR no.1:50-53 '64. (MIRA 17:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii. Predstavleno akademikom AN UkrSSR G.I.Sukhomelom [Sukhomel, H.I.].

BUKHIN, V. Ye., inzh.

Introducing new technology in gas supply systems. Zhil.-kom.khoz. 8 no. 6:18-19 '58. (MIRA 11:7)

(Gas pipes)

KARLINSKAYA, Marianna Il'inichna,; BUKHIN, Vladimir Yevseyevich,; GIPP, V.V., red. izd-va,; RAKITIN, I.T., tekhn. red.

[Remote control and telemetering in gas-supply systems] Teleupravlenie i teleizmerenie v sistemakh gazosnabzheniia. Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1958. 52 p. (MIRA 11:12)
(Gas distribution)
(Remote control)
(Telemetering)

BUKHIN, V.Ye.; VOVCHENKO, L.I.; PERCHENOK, R.I.; PROFERANSOV, V.P.; KNAPP, K.K., red.; ALTUF'YEVA, A.M., red.izd-va; VOLKOV, S.V., tekhn.red.

[Gas equipment, apparatus, instruments, and fittings for an urban gas system; catalog] Gazovoe oborudovanie, apparatura, pribory, armatura dlia gorodskogo gazovogo khoziaistva; katalog. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1959. 289 p. (MIRA 13:2)
(Gas appliances)
(Gas manufacture and works--Equipment and supplies)

RYABTSEV, N.I., red.; BUKHIN, V.Ye., red.; VIGDORCHIK, D.Ya., red.; IVANOV, N.P., red.; KNAPP, K.K., red.; KOZLOV, S.S., red.; PROFERANSOV, V.P., red.; SLOBODKIN, M.S., red.; SHAROVATOV, L.P., red.; BYKOVA, L.B., ved. red.; KORSUN, Ye.P., red.; USHAKOVA, A.F., ved. red.; POLOSINA, A.S., tekhn. red.

[Gas equipment, apparatus, and fittings; reference book]Gazovoe oborudovanie, pribory i armatura; spravochnoe rukovodstvo. Moskva, Gostoptekhizdat, 1963. 469 p. (MIRA 16:4)
(Gas, Natural--Pipelines) (Gas appliances)

BUKHINA, M. F.

USSR/Physics -Helium Low Temperature 1 Mar 50

"Electrical Puncture (Rupture) in Pure Helium at Low Temperatures," B. M. Gokhberg, M. F. Bukhina, Inst of Phys Problems, Acad Sci Ussr

"Dok Ak Nauk SSSR" Vol LXXI, No 1, pp 27-28

Gives direct proportionality between disruptive voltage and density of He gas for various low temperatures 4-20° K, e.g., rupture voltage is 10 kv for density of 16 g/l. Similarly, gives dependence (direct proportionality) of rupture voltage upon gas pressure for various low temperatures 2 to 20°K, e.g., at 4.2° K rupture voltage is 10 kv for 800 mm/Hg pressure. Thus electrical strength of helium is about 100 times less than for various other gases. Submitted 14 Dec 49 by Acad S. I. Vavilov.

PA 165T74

GORELIK, B.M.; BUKHINA, M.F.; KRAYNOVA, L.A.; RATNER, A.V.

Regularities of the transition from deformation in rubber rings or end-bound rubber cylinders to the axial strain of the cylinder. Kauch.i rez. 22 no.2:25-27 F '63. (MIRA 16:2)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Rubber--Testing)
(Strains and stresses)

15.9300
~~20 (5)~~

66967
SOV/32-25-11-41/69

AUTHORS: Gorelik, B. M., Bukhina, M. F., Sazhenov, A. F.

TITLE: Method for Measuring Contact Pressure in Compression of Rubber Samples Within a Wide Temperature Range

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 11, pp 1373-1375 (USSR)

ABSTRACT: The present test method was developed under the cooperation of Ye. D. Kurich and A. A. Lavrent'yev. A steel clamp of small dimensions (Fig 1) was desgined, in which the contact pressure is measured by means of resistance strain gauges. The clamp can be placed in a hermetically sealed cooling chamber, or in a thermostat. Several clamps of this type can be joined to the measuring apparatus, rendering possible simultaneous measurement of several samples. The measuring range is 1-200 kg for samples compressed by 10-90%. The tested rubber sample is pressed by a pressure plate against the center bit (a lamella 1.5-3 mm thick) of the clamp, the latter serving as dynamometer. The pressure is transmitted to the lamella by the sample, so that the deflection of the lamella indicates the elongation deformation, and the peripheric part of the lamella indicates the compression deformation. Measurement of these two

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66967

Method for Measuring Contact Pressure in Compression of Rubber Samples Within a Wide Temperature Range SOV/32-25-11-41/69

deformations is effected by two strain gauges. The dimensions of these gauges must be adjusted to those of the dynamometer (of the lamella) (Fig 2). The thickness of the lamella is of particular significance, since the deflection at maximum load may not exceed 0.001 of the sample height. A tensometric unit of type DU-2 was used. A milliammeter or loop oscillograph can be used for recording. For measuring simultaneously at several clamps the authors employed a scheme similar to that by Prigorovskiy and coworkers (Ref 7). Determinations of the dependence of the contact pressure on the temperature, using rubber based on SKN-40 rubber, show (Fig 3) that the contact pressure drops to 0 in the proximity of the vitrification temperature. At around -20°C the contact pressure drops by about 80%. The modulus of the rubber investigated is 70 kg/cm^2, i.e. the degree of compression must be 15% at the minimum (Ref 9). There are 3 figures and 9 references, 8 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Card 2/2

83662

15.9300
11.2314

S/138/60/000/002/006/009
A051/A029

AUTHORS: Gorelik, B.M., Bukhina, M.F., Ratner, A.V.

TITLE: An Investigation of the Compression in Circular and Cylindrically-Shaped Rubber Rings

PERIODICAL: Kauchuk i Rezina, 1960, No. 2, pp. 23 - 28

TEXT: The results of an investigation on the possibility of determining the elasticity of various rubber parts on the basis of the elastic properties of the rubber used are submitted. Several methods have been proposed by different authors (Refs. 1 - 17), the complexity of the problem, however, renders previous methods inadequate. They are suitable only for simple parts under low degrees of compression. Rings with a circular cross-section and cylindrical in shape were chosen in this investigation as the objects of study. It was proven experimentally that the hypothesis on the constancy of the average diameter of the ring under axial compression holds true. The elastic characteristics of the rubber rings and cylindrical parts under conditions of axial and radial compression within the limits of 5 to 7% deformation were determined. It was established that in calcu-

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S/138/60/000/002/006/009
A051/A029

An Investigation of the Compression in Circular and Cylindrically-Shaped Rubber Rings

lating the stress on the true area of contact a single curve of deformation is obtained for rings of various sizes under axial and radial compression. It is shown that the deformation characteristics of rubber rings under axial and radial compression follow the pattern of the deformation characteristics obtained under radial compression of the cylindrical samples limited at the end planes. Samples with a form factor (i.e., the ratio of the surface under stress to the free surface) of less or equal to 1, were chosen for the experiment, so that the elastic characteristics of the material could be determined rather than that of the sample and so that the effect of friction on the contact might be disregarded. The experimental method is described in detail and the sizes of the investigated rings and cylinders are listed. Figure 5 is the graph showing the overlapping deformation curves of the four investigated types of rubber with a hardness of 40-60 according to TM-3 (TM - 2). These curves can be used in estimating the relationship of the contact pressure to the degree of compression for a ring of any size made of rubber with a hardness of 40 - 60 according to TM - 2. O.B. Vasilyev

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83662

S/138/60/000/002/006/009
A051/A029

An Investigation of the Compression in Circular and Cylindrically-Shaped Rubber Rings

and V.M. Koroleva participated in the work. There are 6 figures and 22 references: 10 Soviet and 12 English.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Card 3/3

S/138/61/000/001/004/010
A051/A029

11.2314

AUTHORS: Gorelik, B. M., Bukhina, M. F., Ratner, A. V.

TITLE: The Change in the Contact Area in Deformation of Rubber Cylinders and Rings

PERIODICAL: Kauchuk i rezina, 1961, No. 1, pp. 12-17

TEXT: The dependence of the contact area of rings and cylindrical samples on the degree of compression was studied. The contact area of circular cross-section rings under conditions of axial compression and cylindrical samples under conditions of axial and radial compression within the limits of 5 to 80 % deformation was determined. The contact area did not depend on the hardness of the rubber. In cylindrical samples deformed in axial direction it is close to the values of the area of the true cross-section calculated from the condition of constant volume. The greatest difference between them (up to 20 %) was noted in compressions from 30 - 60 %, since the "barrel-shape" of the samples is at a maximum in these deformations. The data on the contact area were obtained by measuring the chalk marks left by the ring in axial deformation (Fig. 1, b) or by the cylindrical

The Change in the Contact Area in Deformation of Rubber Cylinders and Rings

sample (Fig. 1, c, d, e) on the compressed steel plates processed to ∇^7. The relative contact area S^* was determined from the formula:

$$S^* = \frac{S_K}{S_o},$$

where S_K is the true contact area, S_o is the initial area of the bearing surface for cylindrical samples deformed in the axial direction, or the area of the maximum longitudinal section for cylindrical samples deformed in the radial direction, and for rings. The degree of compression ε for samples loaded according to diagram e was determined in the usual way and in all the other cases according to the change of the section diameter:

$$\varepsilon = \frac{d_o - h}{d_o},$$

where d_o is the diameter of the section of the cylindrical sample or ring before deformation, h is the height of the cylindrical sample or ring in the deformed state. The relative change in the contact area for the rings under conditions of axial compression and cylindrical samples (free and limited at the ends) under conditions of radial compression is found to be the same. In

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The Change in the Contact Area in Deformation of Rubber Cylinders and Rings

order to calculate the true value of the section area of the samples under compression in the absence of friction at the ends the following ratio based on the constant volume condition of the rubber in deformation is used:

$$\frac{S_{true}}{S_o} = \frac{1}{1 - \varepsilon} \qquad (1).$$

Figure 3 shows the relationship of the relative area of contact to the degree of compression for samples compressed in the axial direction. Figure 4 shows that within the limits of accuracy of the experiment the curves of the relationship of the relative contact area to the degree of compression for rings and samples coincide for diagrams b, c and d. For samples deformed according to diagram d (Fig. 1) the width of the contact changes linearly within the limits of the ε change from 0.05 to 0.8 with an accuracy of 5 % and is described by the empirical formula:

$$\frac{d}{d_o} = 2\varepsilon + 0.15 \qquad (2),$$

where d is the width of the contact of the deformed sample, d_o is the initial diameter of the sample. Experiments showed that equation (2) was true

The Change in the Contact Area in Deformation of Rubber Cylinders and Rings

only for $\varepsilon > 0.05$. Figure 5 shows that equation (2) is valid for deformations of b and c at an ε change from 0.05 to 0.4. For $\varepsilon > 0.4$ the empirical formula would be:

$$\frac{d}{d_o} = (2\varepsilon + 0.15)^2 \quad (3).$$

No change in the length of the contact up to $\varepsilon = 0.4$ takes place, after which it corresponds to the formula

$$\frac{l}{l_o} = 2\varepsilon + 0.15, \text{ for } \varepsilon > 0.4 \quad (4),$$

where l is the length of the contact surface of the deformed sample, l_o is the length of the non-deformed sample. Since at $\varepsilon < 0.4$ the length of the contact is considered constant in all of the diagrams, the change in the contact area in deformation is described by the same equation as the change in the contact width:

$$S^* = \frac{S_K}{S_o} = 2\varepsilon + 0.15, \text{ for } 0.05 < \varepsilon < 0.4 \quad (5).$$

The Change in the Contact Area in Deformation of Rubber Cylinders and Rings

From formulae (2) and (4) for the length and width of the contact of the sample compressed according to diagram d an expression for describing the contact area is derived:

$$S^* = (2\varepsilon + 0.15)^2, \text{ for } \varepsilon > 0.4 \quad (6).$$

Figure 6 shows that the side surface of a compressed sample cannot be regarded in the same way as the surface of a circular cylinder when measuring the width of the sample (d_1) in deformation according to the load of diagram d. The values of the area of the transverse section and the volumes of a sample were calculated at different degrees of compression, resulting in a confirmation of the constancy of the volume. The authors point out that an accurate theoretical calculation of the relationship of the contact area and the shape of the side surface to the degree of compression under conditions of complex tension would be possible only when solving a three-dimensional problem for end deformations. There are 4 graphs, 1 diagram, 1 table, 1 photograph and 5 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

GORELIK, B.M.; BUKHINA, M.F.

Effect of the degree of compression of rubber on the residual deformation and contact stress. Kauch. i rez. 20 no.9:22-26 S '61. (MIRA 15:2)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Rubber, Synthetic—Testing)

30463

S/138/61/000/011/003/007
A051/A126

15.9300

AUTHORS: Gorelik, B. M., Bukhina, M. F.

TITLE: Rubber crystallization at low temperatures under compression

PERIODICAL: Kauchuk i rezina, no. 11, 1961, 11 - 15

TEXT: A study was conducted of the crystallization of compressed rubbers at low temperatures, with a change in contact pressure and regeneration. These parameters are subject to change at low temperatures and in the absence of crystallization, due to vitrification. Thus, a differentiation is made between changes caused by crystallization and those caused by vitrification. One of the characteristic features of crystallization is the relation of its rate to temperature, differing from that of the temperature relation in the vitrification process. Data obtained on the effect of the compression degree on the crystallization of rubbers revealed that thecrystallization rate sharply increases at a degree of compression over 50%. In non-crystallizing rubbers, the decrease in regeneration with a drop in temperature depends on the vitrification processes taking place. The relative residual deformation was computed according to the following formulae:

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Rubber crystallization at...

$$y = \frac{h_0 - h_2}{h_0 - h_1} \cdot 100\% \qquad (1)$$

where y is the residual deformation, h_0 - sample height before compression, h_1 - height of compressed sample, h_2 - sample height after release of compression load and regeneration. This calculation excludes the residual deformation (real and "apparent") occurring due to the following three factors: 1) vitrification processes, 2) relaxation processes of a reverse nature, 3) non-reversible processes in the deformed samples (creep). In the case of crystallizing rubbers, in order to exclude the action of the three listed factors from the general value of the residual deformation, the following must be estimated: 1) the value of the residual deformation after the short-term compression time at the given temperature (y_2), 2) the difference between the values of the residual deformation after a long-term (y_3) and short-term (y_4) compression time, at room temperature, i.e.,

$$y = y_1 - [y_2 + (y_3 - y_4)] \qquad (2)$$

[(y_1) is the crystallization temperature]. The effect of the composition on rubber crystallization was studied according to the given method. The difference between crystallizing and non-crystallizing rubbers with respect to the relation be-

Rubber crystallization at...

tween regeneration and temperature at various compressions was determined. A sharp increase in the crystallization process with an increase in the degree of compression led to the development of a method for the rapid determination of crystallization, thus avoiding the measurements at low temperatures. An instrument constructed by the НИИРП (NIIRP) was used to determine the regeneration. The method of tension change in compressed rubber samples, at low temperatures, was used to investigate the crystallization process kinetics of rubbers under compression. An analysis of the results obtained showed that a change in the regeneration and the relative tension drop caused by crystallization are quite close. The advantage of using the crystallization determination method according to the tension drop lies in the possibility of observing the entire crystallization kinetics in one sample without removing it from its cooling chamber. The two given methods for determining crystallization help to determine the effect of the rubber composition on its tendency to crystallization; the effect of the deformation on the crystallization process; and they help to check the quality of the rubbers intended for use over long periods of time at low temperatures. There are 6 graphs and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The references to the 4 most recent English-language publications read as follows: L. Radv, Briff, Ind. Eng. Chem., 46, no.11, 2439 (1954); E. W. Russel, Rubb. Chem. Technol., 25, vyp. 3, 397 (1952); S. D.

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30463

S/138/61/000/011/003/007
A051/A126

Rubber crystallization at...

X

Gehman, P. J. Jones, C. S. Wilkinson, D. E. Woodford, Ind. Eng. Chem., 42, no. 3, 475 (1950); A. N. Gent, Rubb. Chem. Technol., 28, vyp. 1, 36 (1955).

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (The Scientific Research Institute of the Rubber Industry)

Card 4/4

GORELIK, B.M.; BUKHINA, M.F.; KAPSHTYK, V.I.; RATNER, A.V.; MAYOROVA, A.S.

Rubber sealing rings. Standartizatsiia 25 no.3:49-50 Mr '61.
(MIRA 14:3)
(Gaskets—Standards)

S/190/62/004/009/010/014
B101/B144

AUTHORS: Bukhina, M. F., Gorelik, B. M.

TITLE: Thermomechanical properties of vulcanizates of crystallizing rubber

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 9, 1962, 1390-1393

TEXT: The effect of crystallization on the thermomechanical curves of vulcanized natural rubber was studied between 0 and -40°C by measuring the deformation at a pressure of 2.1 kg/cm. Results: (1) Keeping the sample at the experimental temperatures for 2 hrs was attended by deformation corresponding to glass transition. (2) When the sample was kept at the experimental temperatures for 17 or 48 hrs, crystallization took place and the deformation showed a minimum at -25°C, which is the temperature at which crystallization proceeds fastest. The higher the degree of crystallization, the broader the minimum. (3) The recovery curves too showed a minimum at -25°C. The effect of crystallization can be determined from $K_2 = K_1/K_o$, where K_1 is the over-all recovery and K_o

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the recovery during glass transition. There are 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: June 19, 1961

15.9300

S/190/62/004/009/011/014
B101/B144

AUTHOR: Bukhina, M. F.

TITLE: Crystallization kinetics of rubber at low temperatures

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 9, 1962, 1394-1397

TEXT: The change in recovery K of vulcanized natural rubber, caused by crystallization, was measured at -25°C. Rubber with a dense network was vulcanized by using monosulfide and rubber with a sparse network by using polysulfide. They were then deformed by pressure and the residual deformation 1 - K was calculated from $1 - C_t/C_\infty = K$, where $C_t/C_\infty = 1 - \exp(-\alpha t^\beta)$; C_t is the given crystallization degree, C_∞ is the maximum crystallization degree, α is a constant of the crystallization rate, β is a coefficient dependent on the crystallization conditions. α and β were found to depend largely on the degree of deformation. Hence, the "half time of crystallization" $\tau_{1/2}$ at which K is 50%, is suggested as a basis for calculating the crystallization rate. Since log $\tau_{1/2}$ is a

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linear function of the pressure σ, extrapolation of log $\tau_{1/2}$ for any values of σ is possible, also for σ = 0. There are 4 figures. The most important English-language references are: A. N. Cyent, Trans. Faraday Soc., 50, 521, 1954; A. V. Tobolsky, Cy. M. Brown, Rubber Chem. and Technol., 29, 4, 1956.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: June 19, 1961

GORELIK, B.M.; RATNER, A.V.; BUKHINA, M.F.; KAPSHTYK, V.I.

Studying the testing butt joints and rubbers for asbestos cement water pipes. Kauch.i rez. 21 no.7:19-23 Jl '62. (MIRA 15:7)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Water pipes) (Rubber goods)

BUKHINA, M.F.; GORELIK, B.M.

Thermomechanical properties of crystallizing rubber vulcanizates. Vysokom.soed. 4 no.9:1390-1393 S '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

(Rubber) (Vulcanization) (Crystallization)

BUKHINA, M.F.

Crystallization kinetics of rubber at low temperatures.
Vysokom.soed. 4 no.9:1394-1397 S '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

(Rubber)
(Crystallization)

BUKHINA, M.F.

Effect of deformation on the crystallization of crude and vulcanized rubbers at low temperatures. Vysokom.soed. 5 no.11:1725-1728 N '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

GORELIK, B.M.; GORBUNOV, P.M.; BUKHINA, M.F.

Visual observation of crystalline formations in polychloroprene rubber. Vysokom.soed. 6 no.2:321-322 F '64. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

L 17563-65 EWI(m)/EWP(j) Pc-4 RM
ACCESSION NR: AP4049782 S/0138/64/000/011/0013/0018

AUTHOR: Gorelik, B. M.; Marey, A. I.; Bukhina, M. F.; Novikova, G. Ye.; Pomirchaya, B. A.

TITLE: Effect of carbon-black filler on rubber crystallization

SOURCE: Kauchuk i rezina, no. 11, 1964, 13-18

TOPIC TAGS: rubber crystallization, natural rubber, synthetic rubber, carbon black filler, polysulfide crosslink, monosulfide crosslink, rubber elasticity

ABSTRACT: The literature on the effect of fillers is sparse and contradictory and applies only to natural rubber. This work is an attempt to expand the knowledge to both natural and synthetic rubbers. Two methods of investigation were used - a study of the crystallization of rubbers in the free state by the dilatometric method, and a study of deformed rubbers from the point of view of recoverability. A comparison was made of the kinetic curves obtained by the dilatometric methods those obtained from the change in recoverability. The kinetics of crystallization of natural rubber were studied at -25C, those of synthetic rubber SKI-3 at -25C and of rubber SKD at -38, -45, and -56C. Data on crystallization of deformed rubber were processed with the aid of the formula $\lg t_{1/2} = \lg t^0_{1/2} - B\sigma$,

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where $\lg\tau_{1/2}$ is the log of the half-period of crystallization, $\lg\tau^0_{1/2}$ is the segment cut off by the straight line on the axis and corresponds to the half time of crystallization of the sample in the absence of crystallization; and B is a magnitude showing the effect of stress on crystallization and determined as the tangent of the angle of the slope of the characteristic straight line to the axis σ. For unstressed rubbers, the ability to crystallize increases with an increase in the carbon-black content. The same was observed for rubbers crystallizing under conditions of deformation (compression). The influence of filling depends on the type of transverse links. For natural rubber and SKI-3 with a predominant content of polysulfide links, there is a noticeable change in the parameters $\lg\tau^0_{1/2}$ and B. For rubbers with a predominant content of monosulfide links, filling changes these parameters very little. In the case of SKD, filling affects crystallization analogously. Orig. art. has: 5 figures, 1 table and 1 formula.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promy*shlennosti (Scientific Research Institute for the Rubber Industry); Vsesoyuzny*y nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute for Synthetic Rubber)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT
NO REF SOV: 004 OTHER: 004

L 29115-65 EWT(m)/EWP(j) Pc-4 RM

ACCESSION NR: AP5005393 S/0138/65/000/002/0020/0024

AUTHORS: Gorelik, B. M.; Bukhina, M. F.; Kapshtyk, V. I.

TITLE: The effect of the vulcanizing group and the addition of uncrystallized rubber on the crystallization of cured rubber from natural rubber

SOURCE: Kauchuk i rezina, no. 2, 1965, 20-24

TOPIC TAGS: rubber, vulcanization

ABSTRACT: The authors investigated the effect of vulcanization lattice density on the shape of the characteristic straight line and its parameters. The relationship may be expressed by $\log \tau_{1/2} = \log \tau^{o}_{1/2} - B\sigma$, where $\tau_{1/2}$ is the half time of crystallization, $\tau^{o}_{1/2}$ is the parameter characterizing rate of crystallization, B is the parameter representing accelerating effect of stress on crystallization, and σ is the stress necessary for preliminary deformation of the specimen before crystallization. The characteristic straight line (σ - $\log \tau_{1/2}$) completely describes the crystallization process of rubber that exists in a stressed state at a given temperature. The relationships are shown in Fig. 1 on the Enclosure. For rubber that has predominant polysulfide bonds, $\log \tau^{o}_{1/2}$ greatly increases with

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ACCESSION NR: AP5005393

2

increase in lattice density. For rubber with predominant monosulfide bonds and rubber with peroxids vulcanization the increase in log $\tau^{o}_{1/2}$ is much less. The parameter B increases with increase in lattice density in rubber of the first type, but it remains practically constant in rubber of the second group. The pattern observed for unfilled rubber for the effect of lattice density on rate of crystallization is the same as for filled rubber. The introduction of uncrystallized raw rubber lowers the crystallization capacity of cured rubber from natural rubber. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: 00 ENCL: 01 SUB CODE: MT

NO REF SOV: 009 OTHER: 004

Card 2/3

L 29115-65

ACCESSION NR: AP5005393 ENCLOSURE: 01

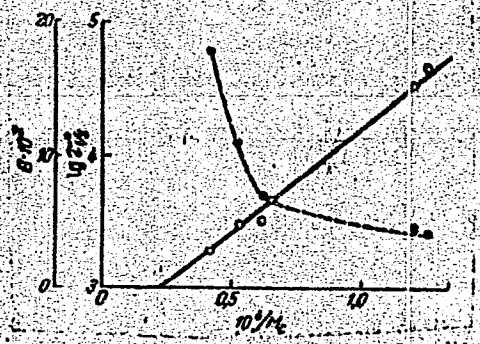


Fig. 1. Dependence of parameters of the characteristic line log (solid line) and B (dashed line) at -25C on the lattice density for rubber with predominant polysulfide bonds.

Card 3/3

GORELIK, B.M.; BUKHINA, M.F.; KRAYNOVA, L.A.; RATNER, A.V.

Studying the compression of round cross-section sealing rings with lubricated surfaces. Kauch. i rez. 24 no.8:21-24 '65.
(MIRA 18:10)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

BUKHINIK, Ye.N.; BOGOMOLOV, V.A.

Low-temeperature gaseous nitriding of P9 and P18 steel cutters. Metalloved. i term. obr. met. no. 6:50 Je '64. (MIRA 17:7)

VOLOCHAYEV, S.D., inzh.; BUKHKALO, Ye.S., inzh.

Small N-lm sinking pump. Shakht. stroi. 5 no.7:17 Jl '61.
(MIRA 15:6)

1. Krivorozhskiy gornorudnyy institut (for Volochayev).
2. Gosudarstvennyy institut po proyektirovaniyu oborudovaniya po dobyche i obogashcheniyu rud (for Bukhkalo).

(Mine pumps)

VOLOCHAYEV, S.D., inzh.; BUKHKALO, Ye.S., inzh.

PGSh-15 hinged air-operated loader for sinking and deepening shafts. Shakht. stroi. 6 no.5:14-16 My '62. (MIRA 15:7)

1. Krivorozhskiy gornorudnyy institut (for Volochayev). 2. Gosudarstvennyy institut po proyektirovaniyu obrudovaniya po dobyche i obogashcheniyu rud (for Bukhkalo).
(Shaft sinking--Equipment and supplies)

BUKHLAK, Stanislav, mayor

Through obstacles. Starsh.-serzh. no.4:17 Ap '62. (MIRA 15:4)
(Czechoslovakia--Tanks (Military science))

ZAPROMETOV, M.N.; BUKHLAYEVA, V.Ya.

Free gallic acid in tea leaves. Dokl. AN SSSR 151 no.1:231-233 Jl '63. (MIRA 16:9)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva AN SSSR. Predstavleno akademikom A.L.Kursanovym.
(Gallic acid) (Tea)

BUKHLITSKIY, A.N., inzhener.

Rustavi blast furnace slags and their use in the cement industry. Tsement 23 no.1:28 Ja-F '57. (MLRA 10:4)

1. Gruzinskiy tsementnyy zavod.
(Rustavi--Blast furnaces) (Cement industries)

GFDYK, P.K.; BUKHLITSKIY, A.Z.; LIKHACHEVA, A.A.

It should be exemplary. Standartizatsiia 29 no.9:38-39 S '65. (MIRA 18:12)

1. Chleny sektsii standartizatsii tekhniko-ekonomicheskogo soveta Sredne-Ural'skogo soveta narodnogo khozyaystva.

BUKHLOV, G.T.

Shortcomings in the instruments designed by the Central Scientific Research Institute for the Paper Industry. Bum. prom. 31 no.7:25 Jl '56. (MLRA 9:10)

1. Nachal'nik masterskoy KIP i avtomatiki Ingurskogo tsellyulozno-bumazhnogo kombinata.
(Electric measurements)

BUKHMAN, A.

USSR/Chemistry - Hydrogenation Catalysts Apr 52

"The Kinetics of Hydrogenation of Cinnamic Acid," D. Sokol'skiy, L. Buvalkina, A. Bukhman, Chair of Catalysis and Tech Chem, Kazakh State U imeni S. M. Kirov

"Zhur Obshch Khim" Vol XXII, No 4, pp 558-563

Investigated the effect of stirring on the kinetics of hydrogenation of cinnamic acid over skeleton nickelin a soln of 96% ethyl alc. Found that hydrogenation of cinnamic acid proceeds in the "kinetic" region and does not depend on the increase in the intensity of stirring, starting from 300 oscillations per min of the vessel. The reaction on cinnamic acid is of the 1st order. The energy of activationof the process is 9,000 ± 1,000 cal/mol.

224T28

BUKHMAN, A. kandidat tekhnicheskikh nauk.

The conveyer method in manufacturing reinforced concrete Constructions. Prof.-tekh.obr. 13 no.5:13-16 My '56. (MLRA 9:8)
(Precast concrete construction)

BUKHMAN, A. A.

"Application of the Enthropy Method of Gas-dynamic Resistance Determination to the Investigation of Supersonic Adiabatic Flows."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

BUKHMAN, A.A.

Tumors of the bladder. Med.sestra no.1:14-16 Ja '54. (MLRA 7:1)

1. Bol'nitsa im. S.P.Botkina (Moscow). (Bladder--Tumors)

BUKHMAN, A.A.

Late results of partial resection of the kidney in tuberculosis. Urologiia no.2:29-35 Ap-Je '55. (MLRA 8:10)

1. Iz urologicheskogo otdeleniya Klinicheskoy ordena Lenina bol'nitsy imeni S.P.Botkina i kafedry urologii (zav.prof. A.P.Frumkin) Tsentral'nogo instituta usovershenstvovaniya vrachey.

(TUBERCULOSIS, RENAL, surgery, partial resection, remote results)

BUKHMAN, A.A.

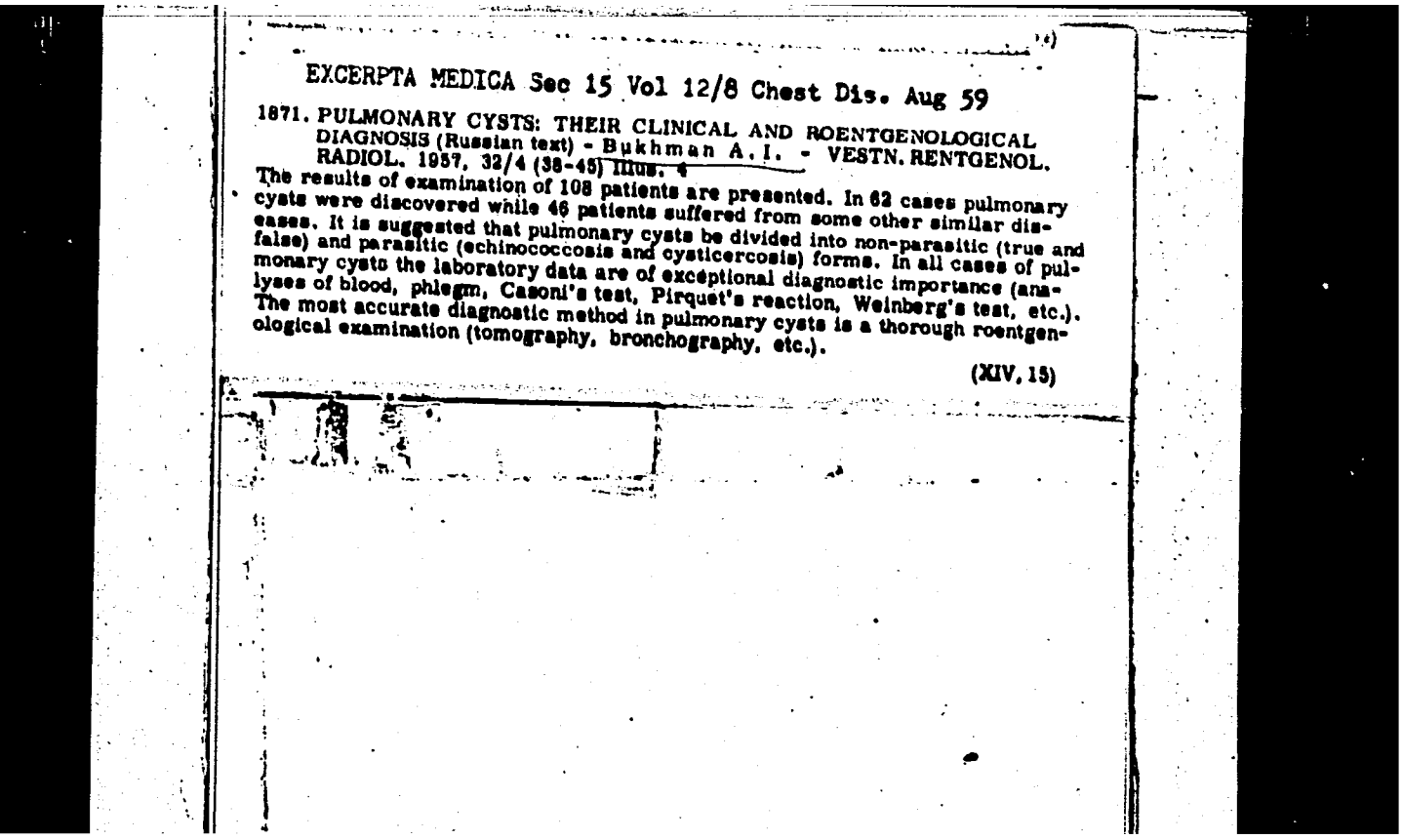
BUKHMAN, A.A., vrach (Moskva)

Tuberculosis of the urogenital system. Med.sestra, no.9:14-18 S '55. (MLRA 8:11)
(TUBERCULOSIS, UROGENITAL)

BUKHMAN, A. A., Cand Med Sci -- (diss) "Resection of a tubercular kidney," ~~affected by tuberculous lesion.~~ Mos, 1957. 15 pp (Min of Health USSR, Central Inst for the Advanced Training of Physicians), 200 copies (KL, 52-57, 111)

FRUMKIN, A.P.; BUKHMAN, A.A.

Ten years' experience in organ-preserving surgery in urogenital tuberculosis. Urologiia 25 no. 4:3-11 Jl-Ag '60. (MIRA 14:1)
(GENITOURINARY ORGANS—TUBERCULOSIS)



EXCERPTA MEDICA Sec 15 Vol 12/8 Chest Dis. Aug 59

1871. PULMONARY CYSTS: THEIR CLINICAL AND ROENTGENOLOGICAL DIAGNOSIS (Russian text) - Bukhman A.I. - VESTN. RENTGENOL. RADIOL. 1957, 32/4 (38-45) Illus. 4

The results of examination of 108 patients are presented. In 62 cases pulmonary cysts were discovered while 46 patients suffered from some other similar diseases. It is suggested that pulmonary cysts be divided into non-parasitic (true and false) and parasitic (echinococcosis and cysticercosis) forms. In all cases of pulmonary cysts the laboratory data are of exceptional diagnostic importance (analyses of blood, phlegm, Casoni's test, Pirquet's reaction, Weinberg's test, etc.). The most accurate diagnostic method in pulmonary cysts is a thorough roentgenological examination (tomography, bronchography, etc.).

(XIV, 15)

Bukhman A.I.

BUKHMAN, A.I.; KAGAN, Ye.M.

Clinical and roentgenologic diagnosis in hyperparathytoid osteodystrophy. Khirurgiia 33 no.6:49-54 Je '57. (MIRA 10:12)

1. Iz rentgenologicheskogo otdeleniya (zav. A.I.Bukhman) Poliklinik (glavnyy vrach Z.S.Rykhlova) No.2 Kirovskogo rayzdravotdela Moskvy i rentgenodiagnosticheskogo otdela (zav. - prof. I.A.Shekhter) Gosudarstvennogo nauchno-issledovatel'skogo instituta rentgenologii i radiologii imeni Molotova (dir. - dotsent I.G.Lagunova)
(OSTEITIS FIBROSA, diag.
diag., x-ray)

BUKIMAN, A.I., Cand Med Sci--(diss) "~~Cysts of~~ Pulmonary cysts and their clinico ~~roentgenological~~ X-Ray diagnosis." Mos, 1958. 14 pp (State Sci Res X-ray Radiological Inst of the Min of Health RSFSR), 150 copies (KL,26-58,115)

BUKHMAN, A.I.

Air cavities in the lungs; x-ray study. Khirurgiia 34 no.12:39-44 D '58.
(MIRA 12:1)
1. Iz rentgenovskogo otdeleniya (zav. A.I. Bukhman) II Lyuberetskoy bol'nitsy Moskovskoy oblasti (glavnyy vrach D. K. Subbotina).
(LUNGS, DISEASES, diag.
air cavities, x-ray diag. (Rus))

BUKHMAN, A.I. (Moskva, B-296, Lomonosovskiy pr. d. 18, kv. 310)

Significance of fluorography in the detection of diseases of the paranasal simuses. Vest. rent. i rad. 34 no.1:44-49 Ja-F '59.
(MIRA 12:3)
1. Iz flyuorograficheskogo otdela (zav. - prof. V.G. Ginsburg) Nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir. - dots. I.G. Lagunova) Ministerstva zdravookhraneniya RSFSR i rentgenovskogo otdeleniya (zav. A.I. Bukhman) poliklinik No.51 (glavnyy vrach Z.S. Rykhlova) Kirovskogo rayona Moskvy.
(PARANASAL SINUSES, dis.
fluorography, diag. value (Rus))

BUKHMAN, A. I., Cand Med Sci -- (diss) "Fluorography of accessory nasal sinuses." Moscow, 1960. 23 pp; (State Scientific Research X-ray-Radiological Inst of the Ministry of Public Health RSFSR); 250 copies; price not given; (KL, 24-60, 135)

BUKHMAN, A.I., kand.med.nauk

Preparation of the patient for X-ray examination. Med.sestra 19 no.2:38-40 F '60. (MIRA 13:5)

1. Iz rentgenologicheskogo otdeleniya 2-y Lyuberetskoy bol'nitsy Moskovskoy oblasti.

(DIAGNOSIS, RADIOSCOPIC)

BUKHMAN, A.I.

Rare lesions of the gastrointestinal tract. Vest.rent.i rad. 35 no.1:62-63 Ja-F '60. (MIRA 13:6)

1. Iz rentgenoyskogo otdeleniya (zav. A.I. Bukhman) poliklinik No.51 Kirovskogo rayzdravotdela Moskvy (glavnyy vrach Z.S. Rykhlova).

(GASTROINTESTINAL SYSTEM neopl.)

KOLESNIKOVA, I.V.; BUKHMAN, A.I., kand.meditsinskikh nauk

Some problems in the differential diagnosis of tumors of the neck. Sov.med. 24 no.3:21-26 Mr '60. (MIRA 14:3)

1. Iz onkologicheskogo kabineta i rentgenovskogo otdeleniya (zav. A.I.Bukhman) 2-y Ob"yedinennoy lyuberetskoy bol'nitsy (glavnyy vrach D.K.Subbotina) Moskovskoy oblasti.
(NECK—TUMORS)

BUKHMAN, A.I.; KAVERIN, G.L.

Problem of bezoars of the stomach. Khirurgiia 36 no.4:100-103 Ap '60. (MIRA 13:12)

(BEZOARS)

BUKHMAN, A.I., kand.med.nauk; SHILOVITSKIY, S.M., mayor med.sluzhby

Case of spontaneous pneumothorax in flight. Voen.-med. zhur. no. 2:83 F '61. (MIRA 14:2)

(PNEUMOTHORAX)

LUCHINSKIY, I.I.; BUKHMAN, A.I., kand.med.nauk

Some problems in clinical X-ray diagnosis of Brill-Symmers disease (gian follicular lymphoblastoma) in diseases of the gastrointestinal tract. Terap.arkh. 33 no.11:96-99 '61. (MIRA 15:5)

1. Iz rentgenovskogo otdeleniya (zav. I.I. Luchinskiy) Basseynovoy bol'nitsy No.2 (glavnyy vrach I.L. Popkov) Moskovsko-Oksko-Volzhskogo vodnogo otdela zdravookhraneniya (nauchnyy rukovoditel' - kand.med.nauk P.S. Mironov).
(LYMPHATICS--CANCER) (DIGESTIVE ORGANS--DISEASES)

ZODIYEV, V.V., prof. (Moskva, G-270, 3-ya Frunzenskaya ul., d.4,kv.19); BELYAYEVA, V.F., kand.med.nauk; BUKHMAN, A.I.; RABKIN, I.Kh.

X-ray diagnosis of aortic aneurysms. Vest.rent.i rad. 36 no.3:26-31 My-Je '61. (MIRA 14:7)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya RSFSR (dir. - prof. I.G.Lagunova.), Gospital'noy khirurgicheskoy kliniki I Moskovskogo ordena Lenina meditsinskogo instituta (zav. kafedroy - deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy) i Moskovskoy gorodskoy polikliniki No.51 (glavnyy vrach Z.S.Rykhlova).
(AORTIC ANEURYSMS)

BUKHMAN, A.I., kand.med.nauk (Lyubertsy, Moskovskoy oblasti)

Fluorography as a method for mass X-ray examination. Fel'd. i akush. 27 no.3:27-28 Mr '62. (MIRA 15:4)
(MEDICAL SCREENING) (RADIOGRAPHY)

SANTOTSKIY, M.I., doktor med. nauk; BUKHMAN, A.I., kand. med. nauk; SHAKHNOVSKAYA, V.F., kand. med. nauk; GOLUBEVA, I.V.

Pneumogynecography in endocrine diseases. Probl. endok. i gorm. 9 no.5:97-100 S-O'63 (MIRA 16:12)

1. Iz rentgenologicheskogo otdeleniya (zav. M.I.Santotskiy) i ginekologicheskogo otdeleniya (zav. - prof. S.K.Lesnoy) Vsesoyznogo nauchno-issledovatel'skogo instituta eksperimental'noy endokrinologii (dir. - prof. Ye.A. Vasyukova).

SANTOTSKIY, M.I., doktor med. nauk; IOFFE, B.M., kand. med. nauk; BUKHMAN, A.I., kand. med. nauk

Current status of the problem of x-ray diagnosis of the adrenal glands under normal and pathological conditions. Vest. rent. i rad. 39 no.1:40-45 Ja-F '64. (MIRA 18:2)

1. Rentgenovskoye otdeleniye (zav. - doktor med. nauk M.I. Santotskiy) Vsesoyuznogo instituta eksperimental'noy endokrinologii, Moskva.

BUKHMAN, A.I., kand. med. nauk; LIMONCHIK, S.L.; LUCHINSKIY, I.I.

Hemangicendothelioma of the stomach. Khirurgiia 40 no.12: 126-127 D '64. (MIRA 18:3)

1. Khirurgicheskoye otdeleniye (zav. A.N. Fedorov) i rentgenovskoye otdeleniye (zav. I.I. Luchinskiy) Basseynovoy bol'nitsy No.2 (glavnyy vrach I.L. Popkov) Moskovsko-Oksko-Volzhskogo Vodzdravootdela.

LITVINOVA, M.R.; BUKHMAN, A.I.

Some data on the state of the stomach in patients with the Itsenko-Cushing disease: clinical and X-ray study. Probl. endok. i gorm. 11 no.4:46-52 Jl-Ag '65. (MIRA 18:11)

1. Terapevticheskoye otdeleniye (zav.- kand. med. nauk A.G. Vasil'yeva) Vsesoyuznogo nauchno-issledovatel'skogo instituta eksperimental'noy endokrinologii (dir.- prof. Ye.A. Vasyukova), Moskva.

CA

BUKHMAN, A.S.

20

Technology of preparation of fast-hardening concrete of increased strength. A. S. Bukhman. *Stroitel. Prom.* 29, No. 1, 22-6(1951).—The proposed procedure of prepg. concrete mixes consists of wet grinding the clinker with or without the usual addns. just before loading it into the mixers. By this method is produced a fast-hardening concrete with a final strength 20-25% higher than the concrete prepd. by the usual method. M. Hosak

БУХМАН, А.С.

BUKHMAN, A.S., kand.tekhn.nauk; USAN-PODGORNOV, B.M., inzh.

Prestressed reinforced concrete ties for mine timbering.
Shakht. stroi. no.12:23-26 D '57. (MIRA 11:1)
(Mine timbering)
(Prestressed concrete construction)

SHVEY, M.M., inzh.; [redacted], kand. tekhn. nauk, nauchnyy red.; TYAPKIN, B.G., red. izd-va; TOKER, A.M., tekhn. red.

[Reinforcement and concrete work] Armaturnye i betonnye raboty. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1958. 246 p. (Reinforced concrete construction) (MIRA 11:7)

SOV/97-58-10-7/17

AUTHORS: Bukhman, A.S. (Candidate of Technical Sciences) and Usan-Podgornov, B.M. (Engineer).

TITLE: Construction of Precast Prestressed Reinforced Concrete Pit Props and Technology of their Manufacture (Konstruktsii predvaritel'no napryazhennykh zhelezobetonnykh elementov shakhtnoy krepi i tekhnologiya ikh izgotovleniya)

PERIODICAL: Beton i zhelezobeton, 1958, Nr 10, pp 383-385 (USSR)

ABSTRACT: In 1957-58 the authors of this article designed precast prestressed reinforced concrete slabs for propping coal-mine galleries. This work was carried out in conjunction with M.N. Geleskul, Candidate of Technical Sciences, in the Laboratory for New Designs of Coal-Mining Supporting Constructions, of the Scientific and Research Institute for Coal Mining (VUGI). This new type of propping slab was tested and the results are described in detail. Concrete mark 400 was used based on granite aggregate. The concrete mix was 1 : 1.5 : 1.5 and the water/cement ratio between 0.28 and 0.32. The cement was of 350-400 kg/cm^2 activity and was ground on vibro-grinder VM-10. The reinforcement was of 2.6 mm diameter high

Card 1/3

Construction of Precast Prestressed Reinforced Concrete Pit Props and Technology of their Manufacture

carbon wire with an ultimate strength of 187 kg/mm^2. The slabs were consolidated on vibrating table VS-1M. Curing was carried out at a mean temperature of 18 - 20°C. Tensioning was carried out on stand SNS-1 constructed by Giprouglemash. The tensioning apparatus used was of the type DP-2 of TsNIIS. Tests show that this concrete slab reaches during bending a strength of 40 kg/cm^2. Table 1 gives values obtained during tests which prove that constructions from prestressed reinforced concrete slabs type VUGI are three times stronger and much more economical than those from ordinary reinforced slabs type PNIUI. At the same time the above mentioned laboratory studied mass production of these slabs by the method of casting by vibration. Fig 2 shows the concreting yard and combine on which these slabs are manufactured. Fig 3 shows the vibrating construction used in the manufacture of slabs of rectangular cross-section. Table 2 shows that the strength of the concrete and the load-bearing capacity of the concrete slabs are adequate after only 5 - 10 days of hardening.

SOV/97-58-10-7/17

Construction of Precast Prestressed Reinforced Concrete Pit Props and Technology of their Manufacture

Between 1952-54 the VUGI, in collaboration with TsNIPS, worked on the manufacture of slabs of rectangular cross-section for pit-propping, and on conveyor and stand methods of production. Fig 4 illustrates vibrating stand forming part of a concreting combine for casting prestressed reinforced concrete slabs of fashioned cross-section. Vibrators of the type I-50 were used.

There are 4 figures and 2 tables.

Card 3/3

YEVGEN'YEV, Igor' Yevgen'yevich; BUKHMAN, A.S., kand. tekhn. nauk, nauchnyy red.; RYCHEK, T.I., red.; PEREDERIY, S.P., tekhn. red.; DORODNOVA, L.A., tekhn. red.

[Concrete-reinforcement work] Armaturnye raboty. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 215 p. (MIRA 14:11)
(Concrete reinforcement)

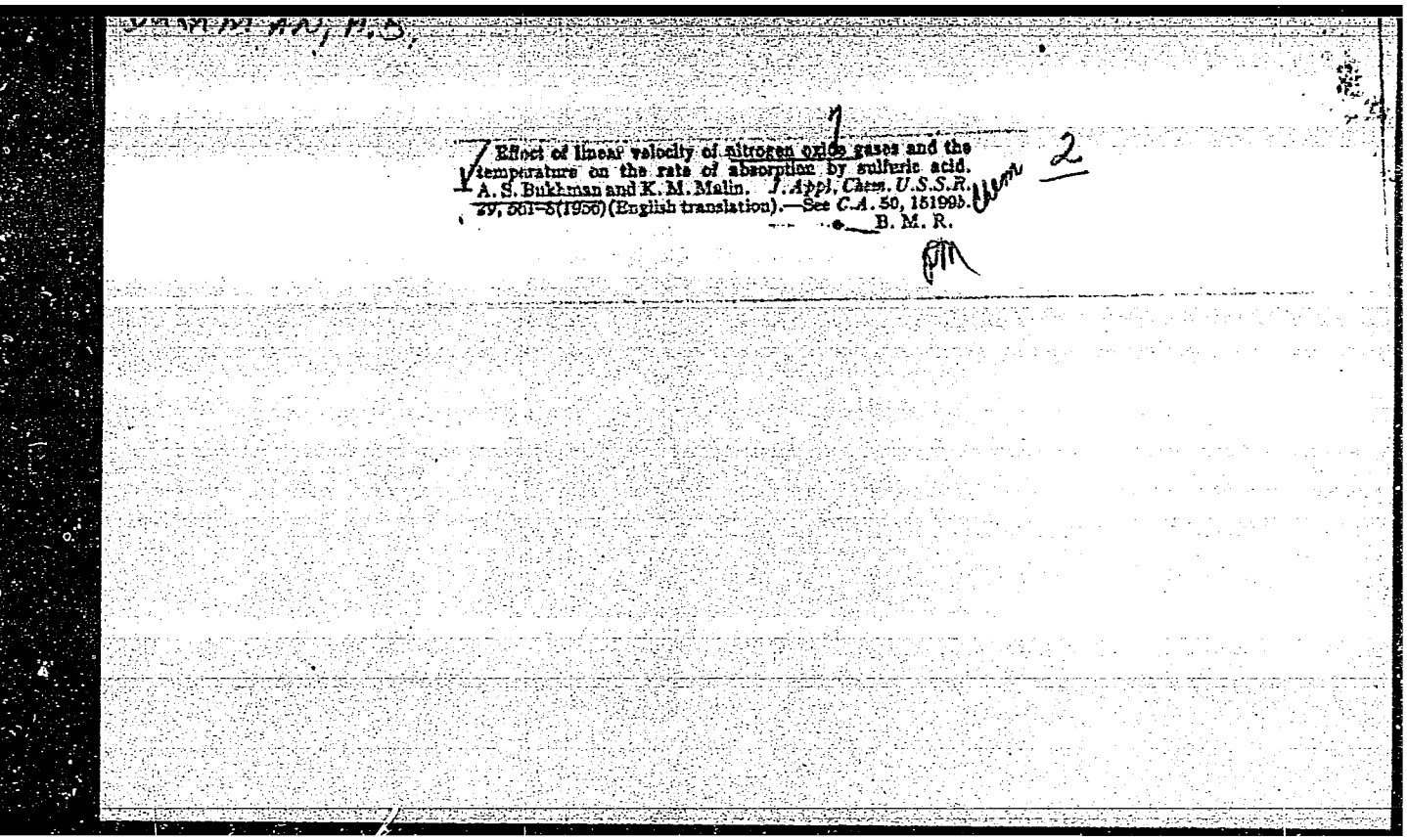
BUKHMAN, Arkadiy Saulovich, kand. tekhn. nauk; FOPOV, V.A., otv. red.; KONSTON'YAN, A.Ya., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.

[Manufacture of precast reinforced-concrete supports for mine workings] Proizvodstvo sbornoi zhelezobetonnoi krepi gornykh vyrabotok. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1962. 170 p. (MIRA 15:2)
(Mine timbering) (Precast concrete construction)

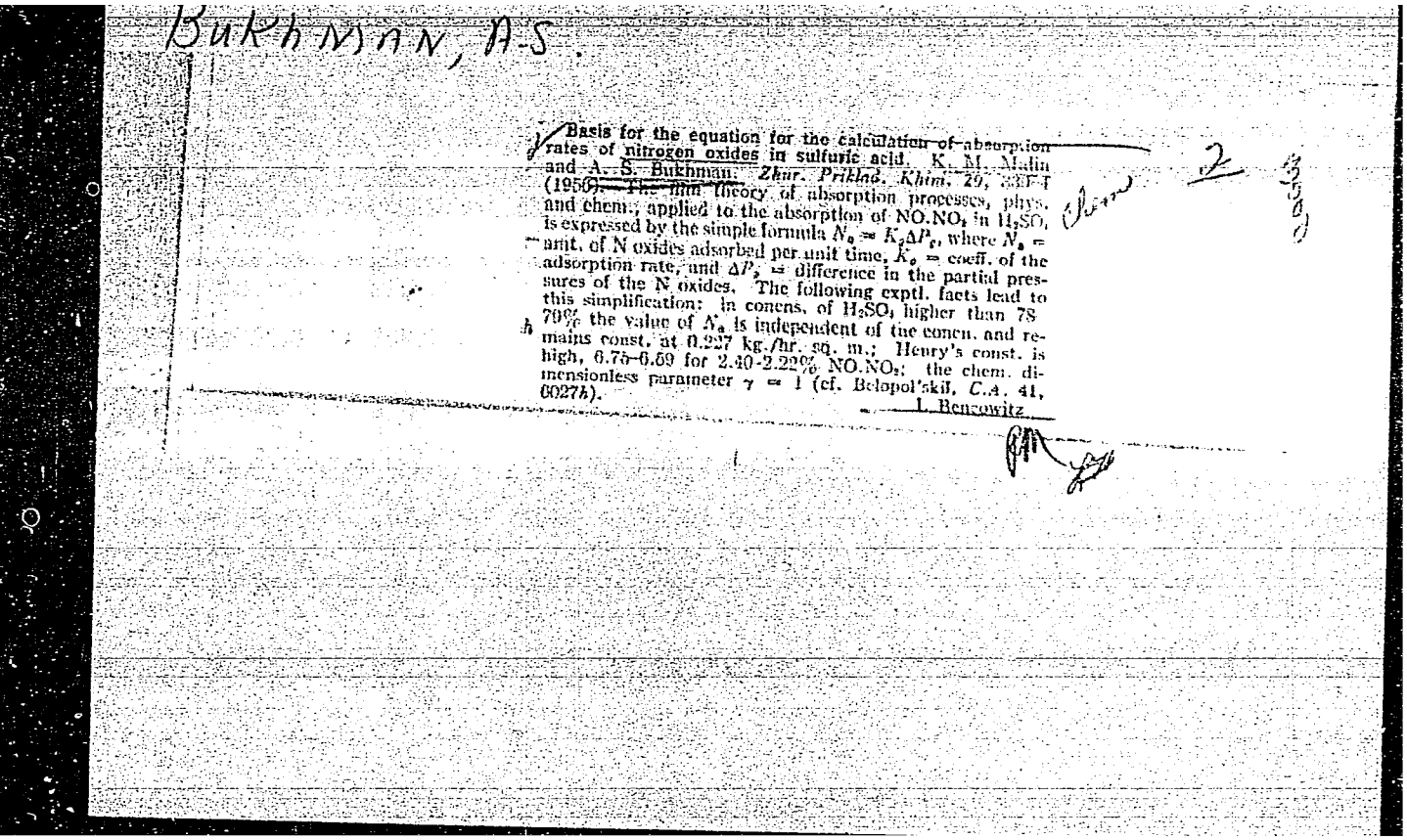
BUKHMAN, A. S.

"Rate of Absorption of Nitrogen Oxides by Sulphuric Acid." Thesis for degree of Cand. Chemical Sci. Sub 24 Mar 50, Sci Inst of Fertilizers and Insect-fungicides (imeni Ya. V. Samoylov), Ministry of Chemical Industry USSR.

Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.



Effect of linear velocity of nitrogen oxide gases and the temperature on the rate of absorption by sulfuric acid. A. S. Bukhman and K. M. Malin. *J. Appl. Chem. U.S.S.R.* 29, 661–5 (1956) (English translation).—See *C.A.* 50, 15199b.
B. M. R.



Bukhman, A.S.

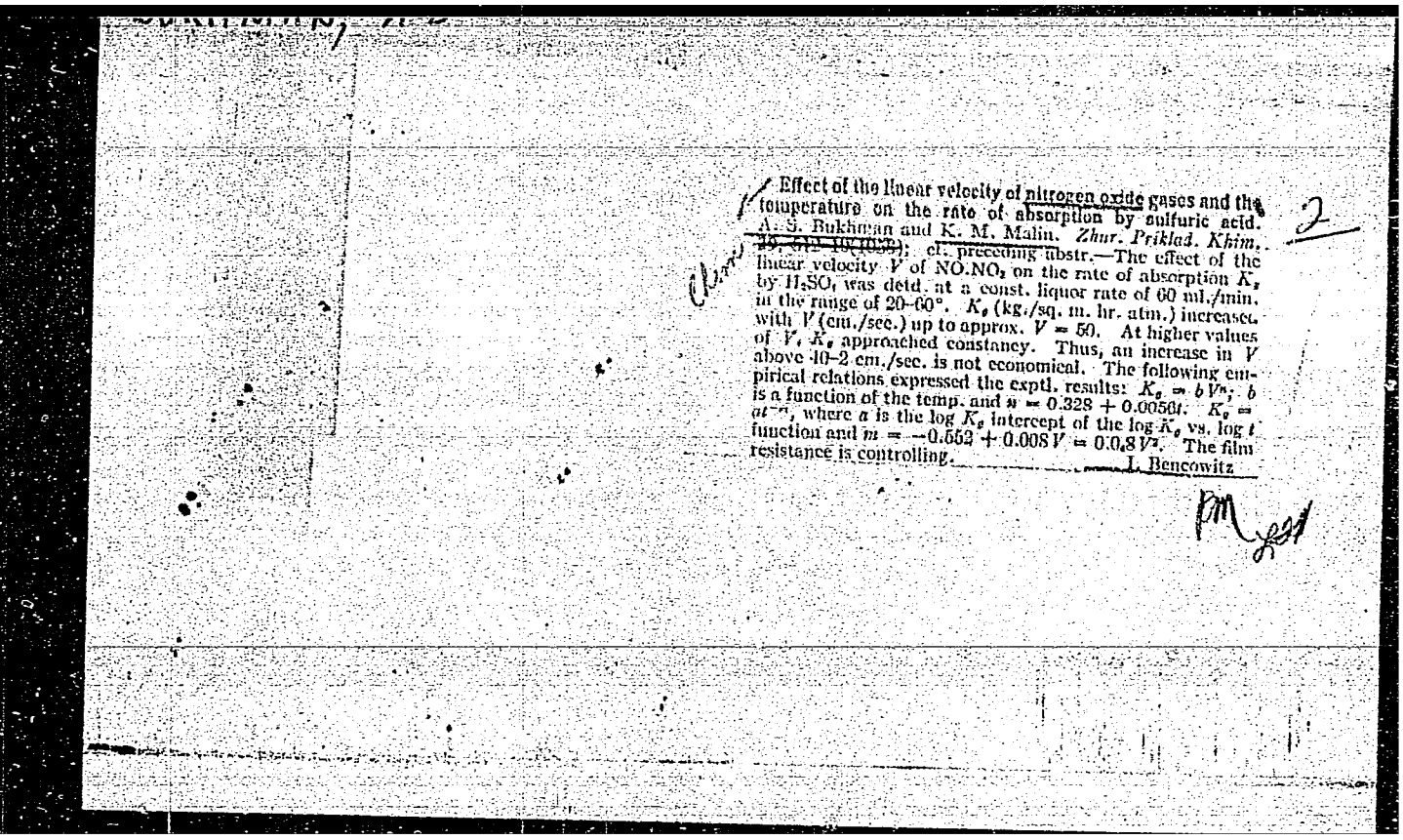
Basis for the equation for the calculation of absorption rates of nitrogen oxides in sulfuric acid. K. M. Malin and A. S. Bukhman. *Zhur. Prikhd. Khim.* 29, 337-41 (1956). The film theory of absorption processes, phys. and chem., applied to the absorption of $NO.NO_2$ in H_2SO_4 is expressed by the simple formula $N_a = K_a \Delta P_a$, where N_a = amt. of N oxides adsorbed per unit time, K_a = coeff. of the adsorption rate, and ΔP_a = difference in the partial pressures of the N oxides. The following exptl. facts lead to this simplification: in concns. of H_2SO_4 higher than 78-79% the value of K_a is independent of the concn. and remains const. at 0.227 kg./hr. sq. m.; Henry's const. is high, 6.75–6.69 for 2.40–2.22% $NO.NO_2$; the chem. dimensionless parameter $\gamma = 1$ (cf. Belopol'skii, *C.A.* 41, 6027h).

L. Benscowitz

BUKHMAN, A.S.; MALIN, K.M.

Effect of the spray density on the rate of absorption of nitrogen oxides by sulfuric acid. Zhur.prikl.khim. 29 no.3:334-341 Mr '56. (MLRA 9:8)

(Absorption) (Nitrogen oxides) (Sulfuric acid)

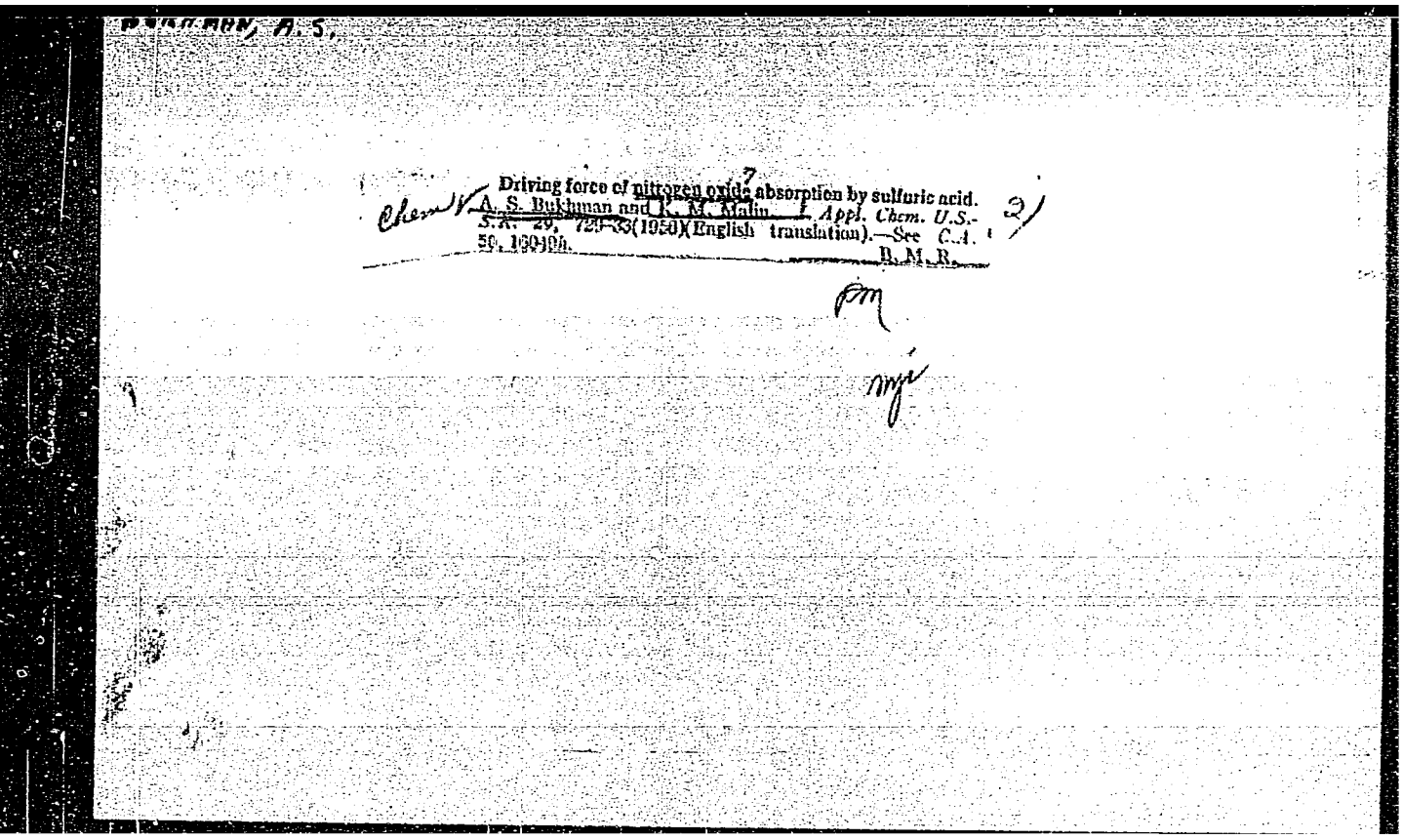


Effect of the linear velocity of nitrogen oxide gases and the temperature on the rate of absorption by sulfuric acid. A. S. Bukhman and K. M. Malin. *Zhur. Priklad. Khim.* 15, 672–80(1938); cf. preceding abstr.—The effect of the linear velocity V of $NO.NO_2$ on the rate of absorption K_g by H_2SO_4 was detd. at a const. liquor rate of 60 ml./min. in the range of 20–60°. K_g (kg./sq. m. hr. atm.) increases with V (cm./sec.) up to approx. $V = 50$. At higher values of V, K_g approached constancy. Thus, an increase in V above 10–2 cm./sec. is not economical. The following empirical relations expressed the exptl. results: $K_g = bV^n$; b is a function of the temp. and $n = 0.328 + 0.0050t$. $K_g = at^{-m}$, where a is the log K_g intercept of the log K_g vs. log t function and $m = -0.552 + 0.008V = 0.08V^2$. The film resistance is controlling.

I. Bencowitz

BUKHMAN, A.S.; MALIN, K.M.

Impulse for the absorption of nitrogen oxides by sulfuric acid. Zhur.prikl.khim. 29 no.5:671-675 My '56. (MLRA 9:8)
(Nitrogen oxides) (Sulfuric acid) (Absorption)



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Chem V

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